City of **Wyoming** Michigan

Clean Water Plant
Environmental Services

A Simple Guide
to the
Sewer Use Ordinance

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Introduction

It is important to understand that the sewer use ordinance limitations are not arbitrary, but rather are the product of an exhaustive process known as a Maximum Allowable Headworks Loading study (MAHL). Basically, this study examines the ultimate fate of each pollutant once it enters the Clean Water Plant in the influent sewage. Examples of these pathways include:

- Leaving the plant in the treated effluent (and thus possibly causing the City to violate its own discharge permit)
- Concentrating in the reusable solid residual product (biosolids)
- Causing interference in the biological treatment systems.

The most limiting pathway is identified and this amount of the pollutant is used as the basis for the industrial discharge limitation. Substantial changes in our plant collection system or regulatory environment dictate how often a MAHL study is performed.

Incompatible Pollutant Discharge Limitations

The ordinance divides the incompatible pollutants into three categories, named Primary, Secondary and Tertiary Pollutants. The Primary Pollutants are the ones most industrial users will be familiar with. The Secondary Pollutants are organic compounds and will not appear in the permits of the majority of industrial users. Note that this doesn't mean the limits don't apply, just that the City won't be regularly scanning for them in those industries' wastewater samples. Tertiary Pollutants are also organic compounds, but they are special in that the plant has a very limited treatment capacity available for them. Because of this, finite masses of each pollutant and maximum flows are allocated to certain industrial users who require them. This will affect only a few industrial users. Tables 1 and 2 show all the relevant limitations.

Table 1. Primary Pollutant Limitations

Parameter	*Daily Maximum Concentration (mg/L)*
Arsenic	0.061
Cadmium	0.1
Chromium, total	2.9
Copper	2.1
Cyanides	0.2
Lead	1.9
Mercury	<0.0002
Molybdenum	0.19
Nickel	1.2
Selenium	0.04
Silver	0.15
Zinc	4.0

Table 2. Secondary Pollutant Limitations

Parameter	*Daily Average Concentration (mg/L)*
Methyl Ethyl Ketone (2-butanone)	760
4-Chloro-3-Methyl Phenol (p-chloro-m-cresol)	1.0
1,4 Dichlorobenzene	0.48
Bis (2-Ethylhexyl) Phthalate	0.19
Butyl Benzyl Phthalate	6.4
4-Methylphenol (p-cresol)	4.7
Naphthalene	1.9
Phenol	42
Toluene	3.5

Should pollutants other than those specified above be received or anticipated, corresponding discharge limits may be established by the City via an appropriate mass allocation of the wastewater treatment plant's approved maximum allowable headworks loadings. The City reserves the right to enter into local initiatives with industrial users setting out special terms under which they may discharge to the POTW. In no case will any special agreement waive compliance with a pretreatment standard or requirement.

Compatible Pollutant Discharge Limitations

Section 86-292 of the ordinance gives levels of compatible pollutants that discharge above which requires a permit. Basically, select sampling showed that these were the levels present in pure domestic sewage, so anyone discharging above these levels would need an Industrial User Permit to do so. *Note that these are not the levels at which permitted industrial users are surcharged.* A permit may also be required even if the industry is below these levels if it is considered a "significant industrial user" (SIU) or for other reasons.

Equivalent mass and concentration limits

Section 86-294 of the ordinance states that when the limits in a categorical pretreatment standard are expressed only in terms of mass of pollutant per unit of production, the City may convert the limits to equivalent limitations expressed either as mass of pollutant discharged per day or effluent concentration for purposes of calculating effluent limitations applicable to individual industrial users. The City shall calculate equivalent mass-per-day limitations and equivalent concentration limitations in accordance with 40 CFR 403.6(c)(2)-(4) and 40 CFR 403.6(c)(6).

Wastewater not in excess of user-specific maximum mass limits may be discharged. These limits will be established by the Director by an appropriate allocation of the wastewater treatment plant's approved maximum allowable headworks loadings for the following parameters:

Parameter	MAHL (lb/day)
5-day BOD	85,000
Suspended Solids	51,600
Total Phosphorus	1,800
Ammonia Nitrogen	4,800

Table 3. Compatible Pollutant Levels Requiring a Permit

Parameter	Permit Issued At Level (mg/L)
5 Day Biochemical Oxygen Demand (BOD_5)	288
Total Suspended Solids (TSS)	160
Phosphorus, Total (P)	7.35
Fats, Oil, & Grease (FOG)	57
Ammonia-N	20

In the past, there were no maximum limits, or ceilings, placed on the discharge of compatible pollutants. Under the current ordinance (effective January 4, 2011) these pollutants are subject to maximum limits because the Clean Water Plant's ability to treat these pollutants is finite. The City has to manage the Clean Water Plant's available treatment capacity to ensure everyone gets a fair share and all the wastewater is treated adequately.

If an industry needs a permit because it is discharging at levels above those in Table 3, is an SIU, or requires monitoring for other reasons, maximum limits for FOG will be in effect. It will be a violation of the ordinance to discharge above these levels for any reason. This maximum limit is shown in Table 4.

Table 4. Maximum Limit on FOG for Permitted Industries

Parameter	Maximum Limit (mg/L)
	Grab
FOG	830

Maximum limits - ammonia, phosphorus, BOD, TSS

The maximum limits for Ammonia, Phosphorus, BOD_5, and TSS are user-specific. In many cases the limit will simply be the permit-action level respectively. However, the limit may be set higher if the industry can show that it needs a higher limitation. If it is not expected that the industry will pay surcharges for Phosphorus, BOD_5, or TSS, the Ammonia limits would be the surcharge thresholds (See Table 5).

Some industries will need still-higher limits. In this case, the limits would be set for the individual discharger along with a maximum flow rate after taking into account the industry's typical discharge and flow. The pollutant levels shown above which are subject to surcharges are listed in Section 86-162.

Table 5. Surcharge Thresholds (Sec. 86-162)

Parameter	Surcharge Threshold (mg/L)
BOD_5	460
TSS	260
P	12
FOG	91
Ammonia-N	32

Example 1.

An industry discharges wastewater with a BOD_5 of 225 mg/L, TSS of 190 mg/L, and P of 1 mg/L. If the industry requires monitoring or is an SIU, a permit would be issued with the limitations in Table 3. If the industry does not require monitoring or is not an SIU, it would not be issued a discharge permit because the levels of pollutants are too low.

Example 2.

An industry discharges wastewater with a BOD_5 of 250 mg/L, TSS of 250 mg/L, and P of 13 mg/L. This industry would be issued a permit with BOD_5 and TSS limits found in Table 5 but would not be surcharged for these parameters. The P limits would also come from Table 5 and the industry would be surcharged on any P over 12 mg/L.

Example 3.

An industry discharges wastewater with a BOD_5 of 1000 mg/L, TSS of 950 mg/L, FOG of 190 mg/L, and P of 5 mg/L. This industry would be issued a discharge permit with user-specific limitations on BOD_5 and TSS and a maximum allowable flow rate. The FOG limit would be from Table 4, and the phosphorus limit from Table 5. The industry would pay surcharges on BOD_5, TSS, and FOG.

pH Limitations

Any wastewater having a pH of less than 5.0, or greater than 10.5, or other than that range established by the wastewater discharge permit,, or any wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel or the sewage works is strictly prohibited. In any event, a minimum pH of 5.0 is necessary in order to comply with 40 CFR 403.5.

Mercury Minimization Plans

In 2002, the State of Michigan required the City of Wyoming Clean Water Plant to implement a Pollutant Minimization Plan (PMP) for mercury. Mercury is present in many industrial chemicals and raw materials as a trace contaminant, and is therefore often present in industrial wastewater discharge. Other users of the sewer, dentists for example, are also prone to having mercury in their discharge. If detected, industrial sewer users will be required to initiate a mercury minimization plan of its own. Wyoming ES staff can assist in the process of identifying and eliminating mercury sources, and a minimization plan would require the industry to submit regular progress reports.

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Disclaimer

While every attempt has been made to ensure the accuracy of the information in this handbook, its author acknowledges the possibility of error. If you spot what you believe to be an error, please contact the Environmental Services Supervisor at (616) 261-3564.

Furthermore, please bear in mind that while this handbook is being supplied as an aid to you in understanding Chapter 86 of the City of Wyoming Code of Ordinances, it should not be considered a substitute for the actual code. Copies of the actual code can be obtained by calling Environmental Services.

Special Note

At the time of this publication and most recent MAHL study, the City had no limits for the PFAS family of compounds in its NPDES Permit to Discharge that is issued by the Michigan Department of Environmental Quality. We were actively sampling and reporting results to EGLE and anticipate that there will be limits enforced in the very near future.

Visit www.wyomingmi.gov/Utilities/CleanWaterPlant
to learn about other programs offered by the
Environmental Services Department.

SAFE MEDS

Proper management and disposal of sharps and unwanted pharmaceuticals.

Cease the Grease

The Environmental Services Department maintains a grease monitoring program and actively inspects restaurants within our service area to make sure that their grease trap is properly maintained. Ask about our Fat Trappers for residential homes!

Household Hazardous Waste Drop-off

2350 Ivanrest Ave SW, Wyoming

Mondays 1:00 pm - 3:00 pm*

Thursdays 7:00 am - 9:00 am*

**Site may be closed due to holidays*

Thermometer Exchange Program

When you bring an old mercury thermometer to the Clean Water Plant you will receive a new digital thermometer for free.

CLEAN CORPORATE CITIZEN PROGRAM

The Wyoming Clean Water Plant is the first municipal facility in the state to have qualified for this State of Michigan program. This program allows regulated establishments that have demonstrated environmental stewardship and a strong environmental ethic through their operations in Michigan to be recognized as Clean Corporate Citizens. The C3 program is built on the concept that these Michigan facilities can be relied upon to carry out their environmental protection responsibilities without rigorous oversight.